



Exhibit A. Photograph of Pier E3 as seen from Yerba Buena Island after steel superstructure has been removed from the Pier.

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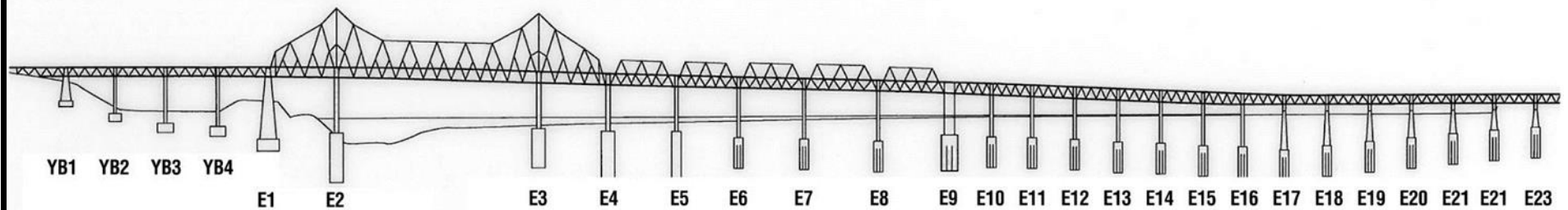
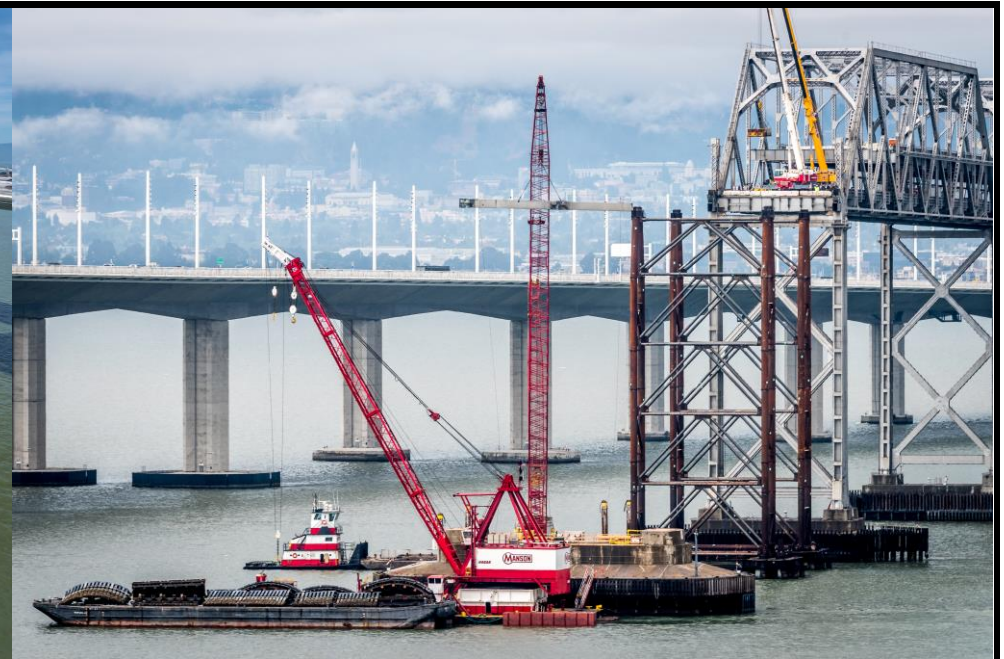
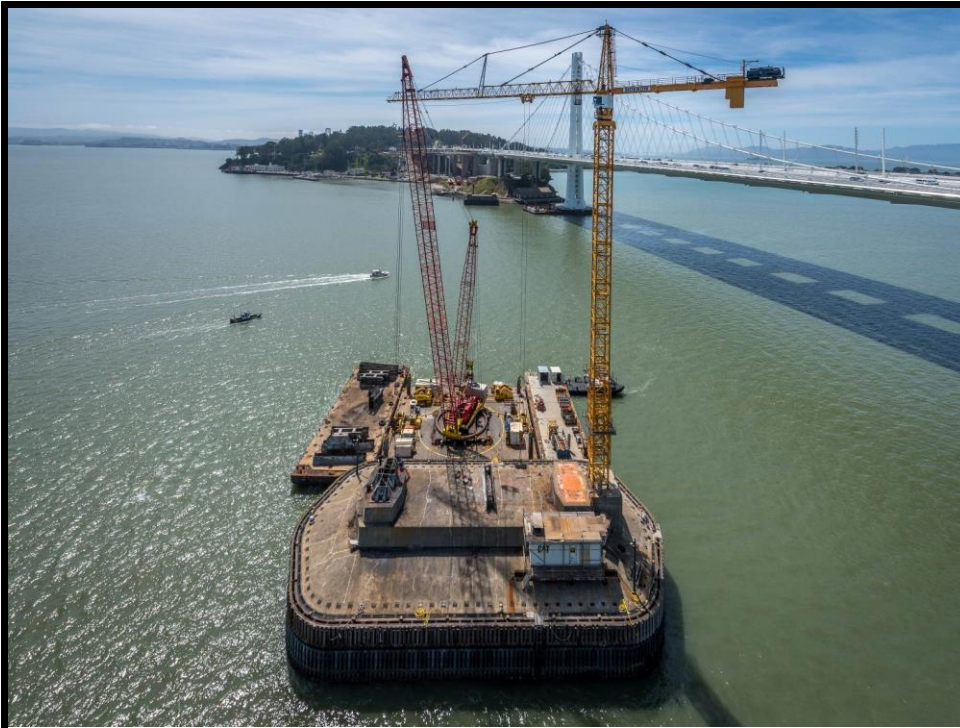


Exhibit B. Pier E3 after removal of steel superstructure. From the original bridge looking west (left) and from Yerba Buena Island looking east (Right). Side view schematic of the SFOBB original east span with piers labeled (bottom).

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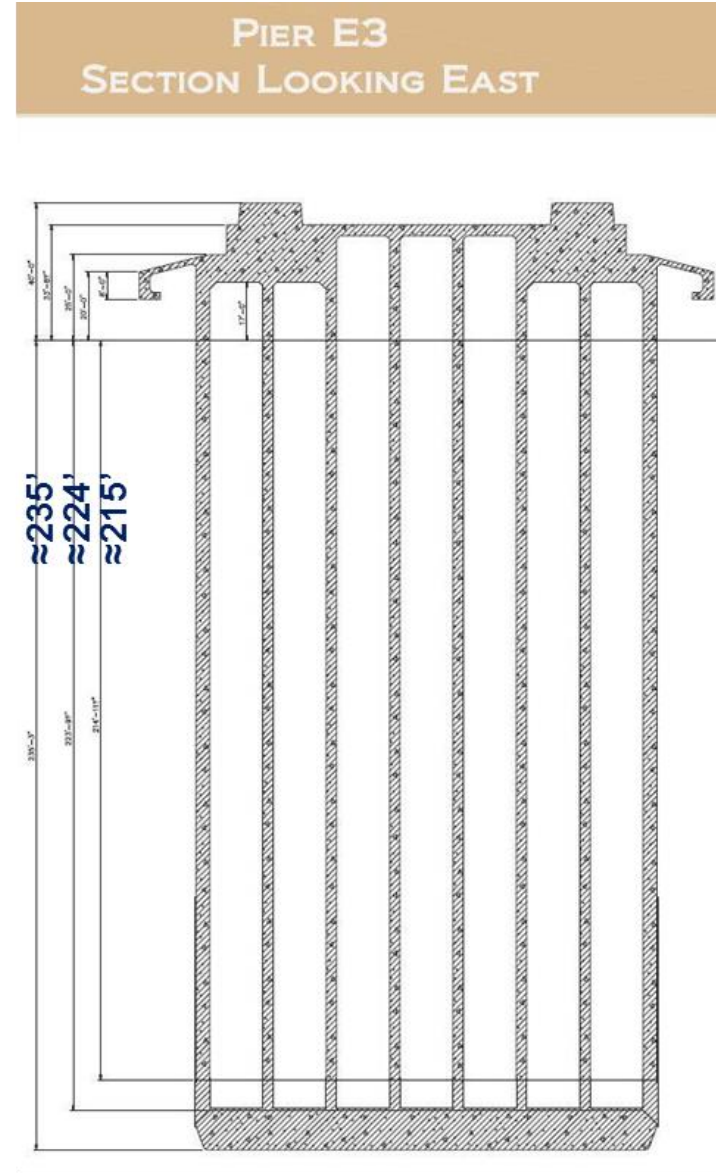
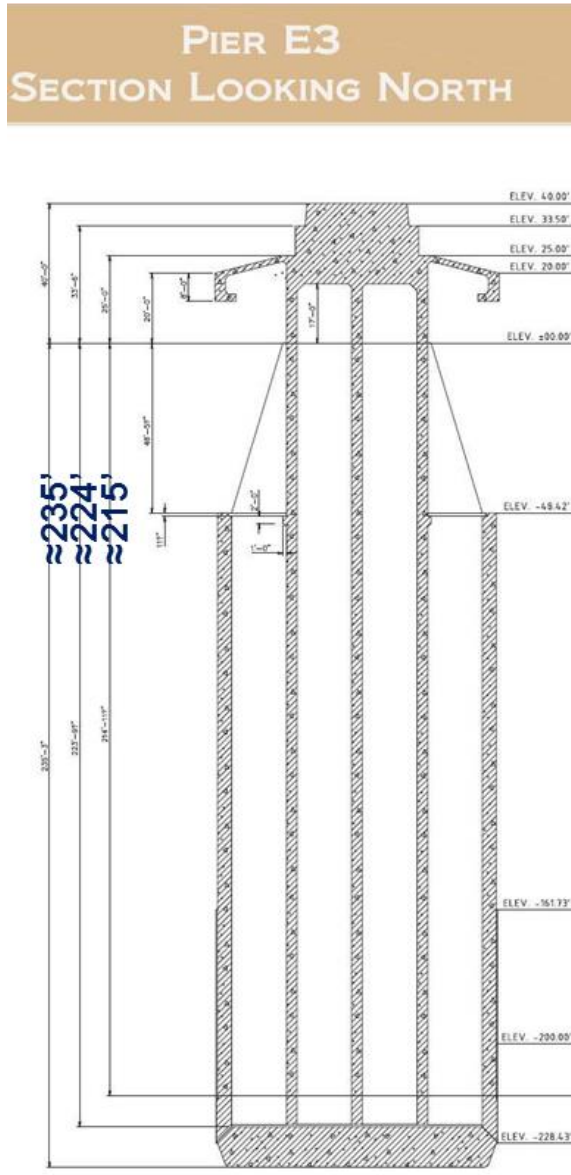


Exhibit C. Side view schematic of Pier E3 structure widthwise (left) and lengthwise (right).

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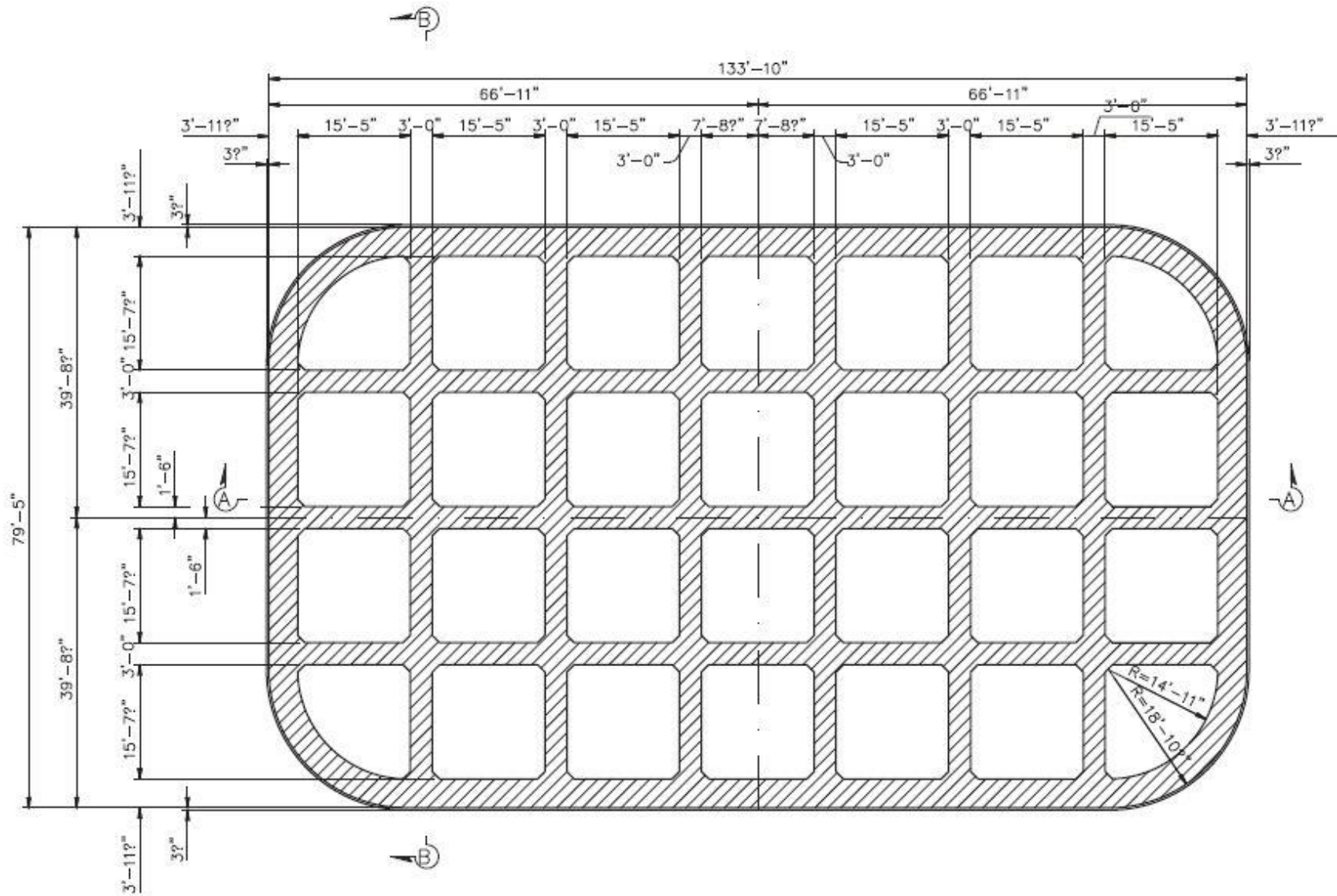


Exhibit D. Top view schematic of the upper and lower concrete caisson cell structure of Pier E3.

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Exhibit E. Photograph taken during construction of Pier E3 of the original SFOBB east span taken in 1934.

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Cofferdam



Cofferdam	Estimated # Piles
54" Pipe Piles	36
24" Pipe Piles	18
King Piles (H-Piles)	170
Sheet Piles	170
Total	394

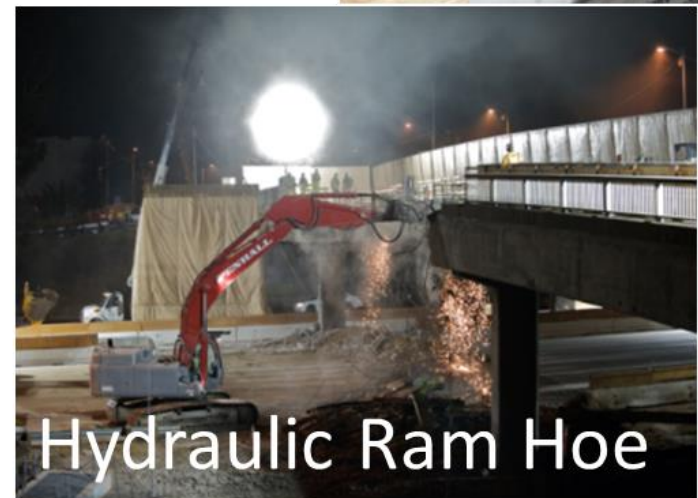


Exhibit F. Photographs showing examples of mechanical dismantling alternative methods and table showing the pile count for a conceptual cofferdam that was used to model the impact analysis for these alternatives.

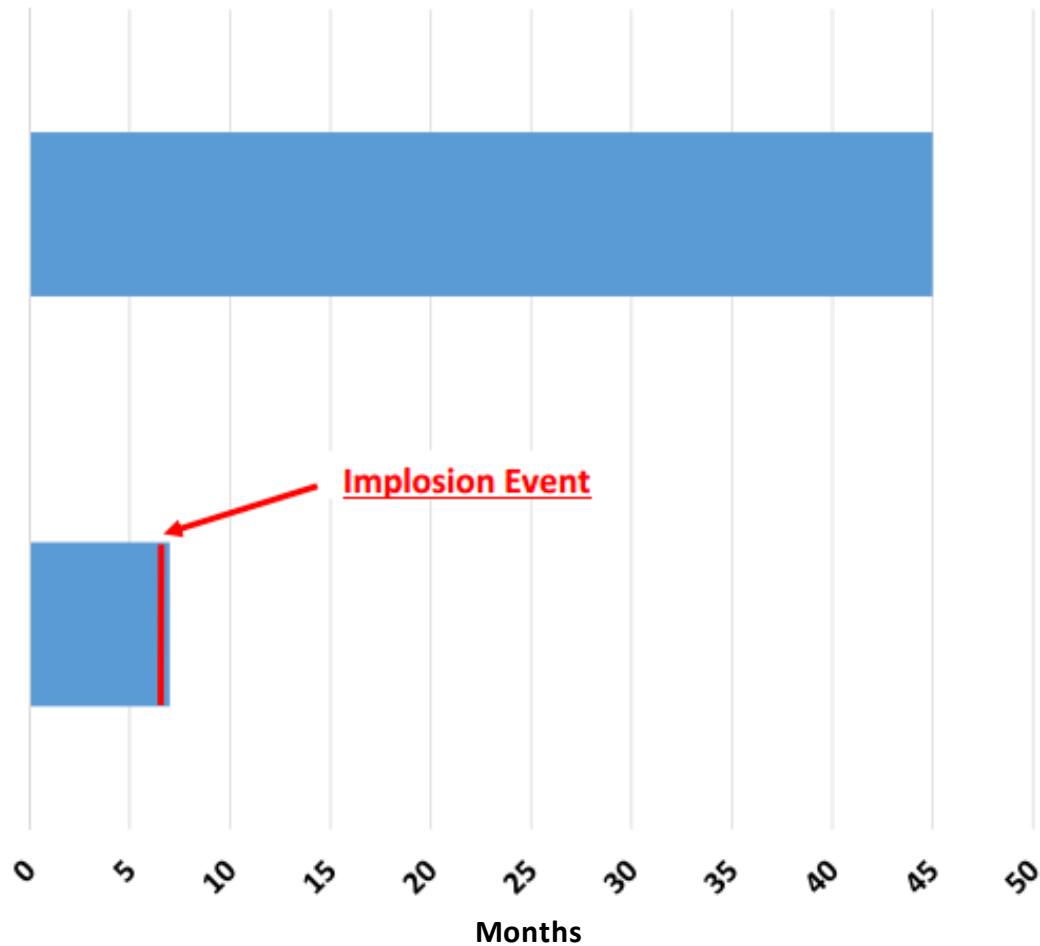
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Pier E3 Duration of Demolition Activities (Months)

* Pier E3 Cofferdam (under 2012 BO)

Pier E3 Implosion

Implosion Event



* The duration estimate for the mechanical alternative includes construction of a conceptual cofferdam design under constraints of the SFOBB Project's 2012 NMFS Biological Opinion. Mechanical dismantling of Pier E3 and removal of the cofferdam are not included in this duration estimate.

Exhibit G. Alternative analysis comparing schedule impacts between mechanical and controlled implosion alternatives to remove Pier E3.

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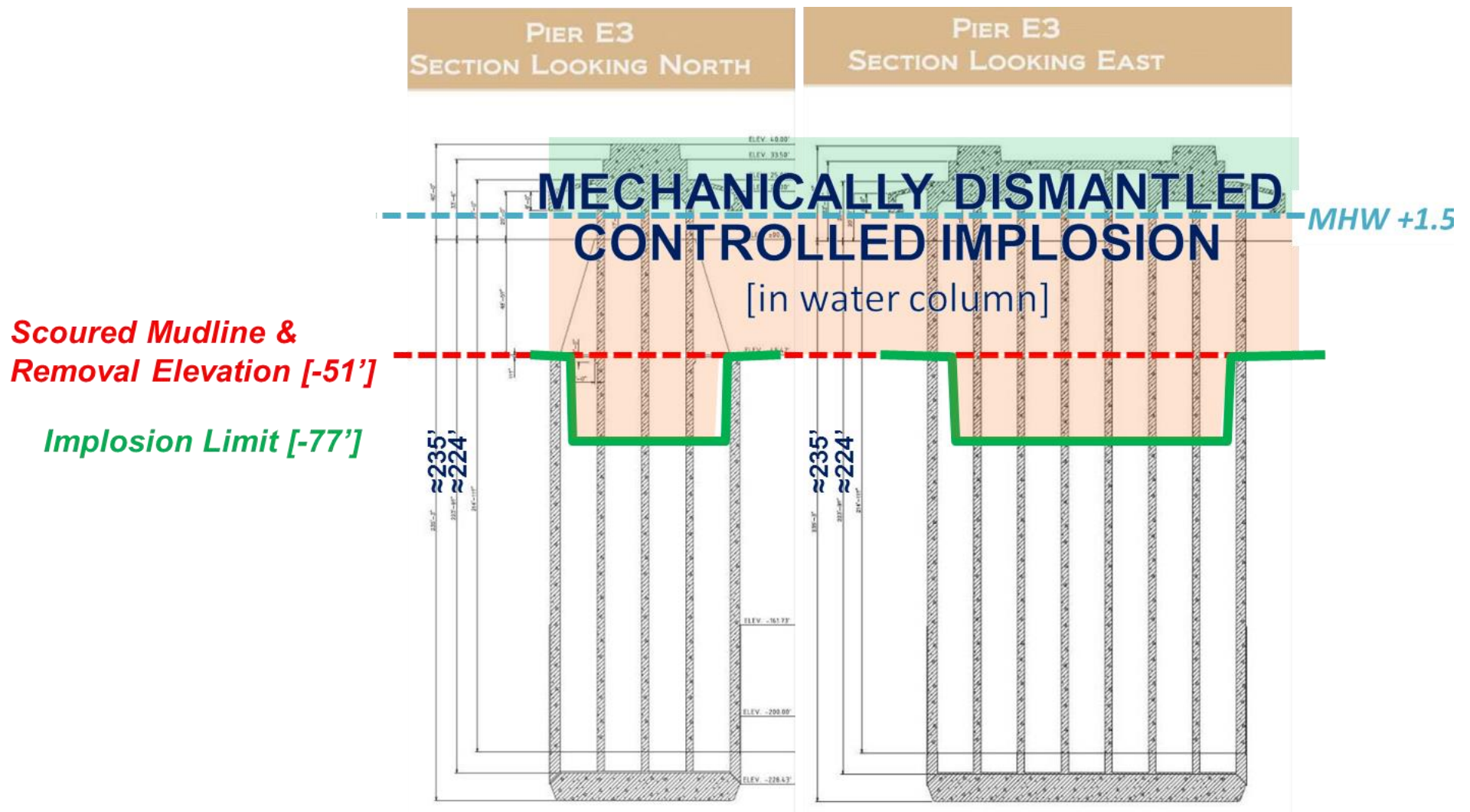


Exhibit H. Side view schematics of Pier E3 marked to indicate elevation lines, water line, required removal limits and proposed limits of removal. Elevation metrics use the National Geodetic Vertical Datum of 1939.

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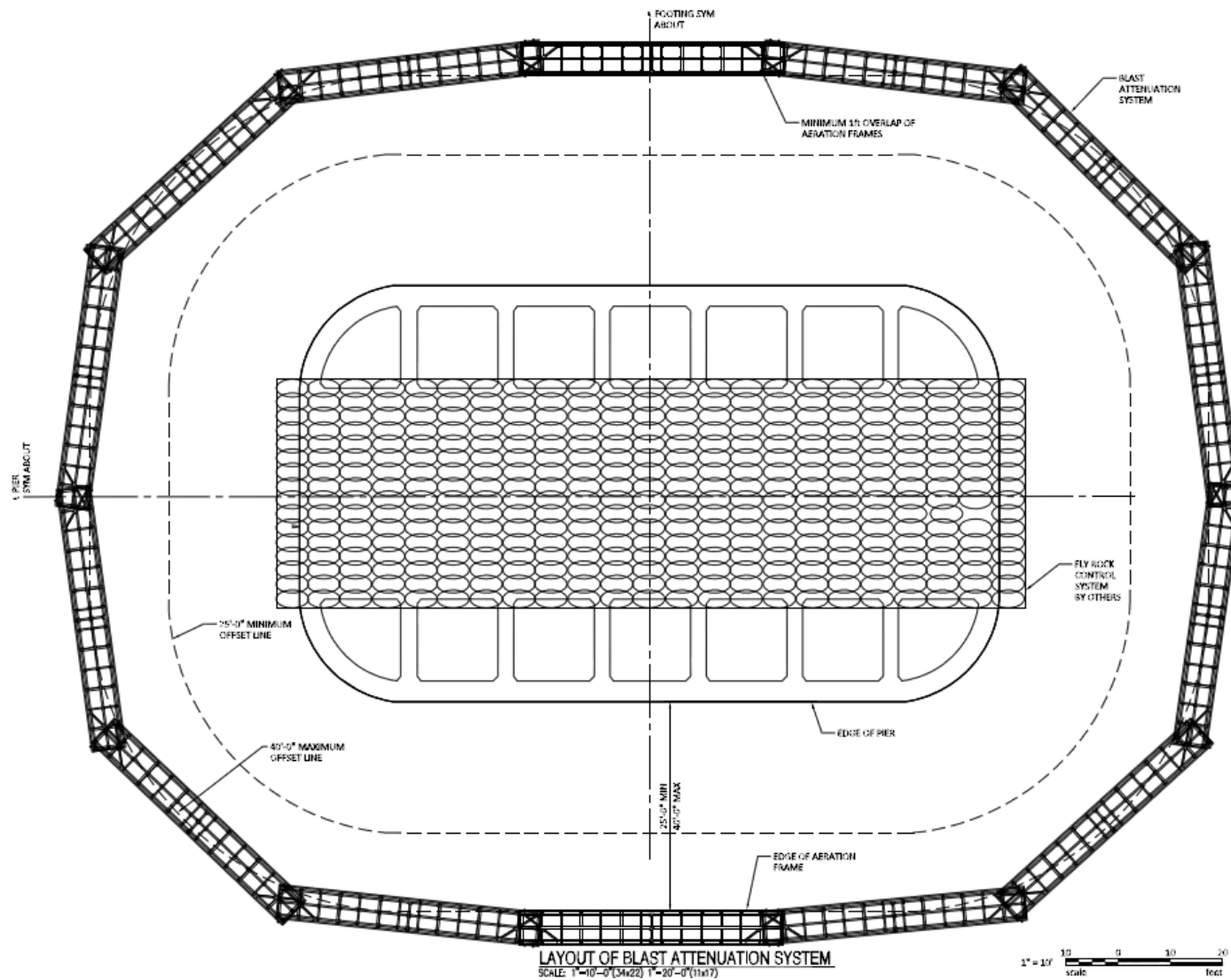


Exhibit I. Top view schematic of the proposed blast attenuation system for the Pier E3 Demonstration Project.

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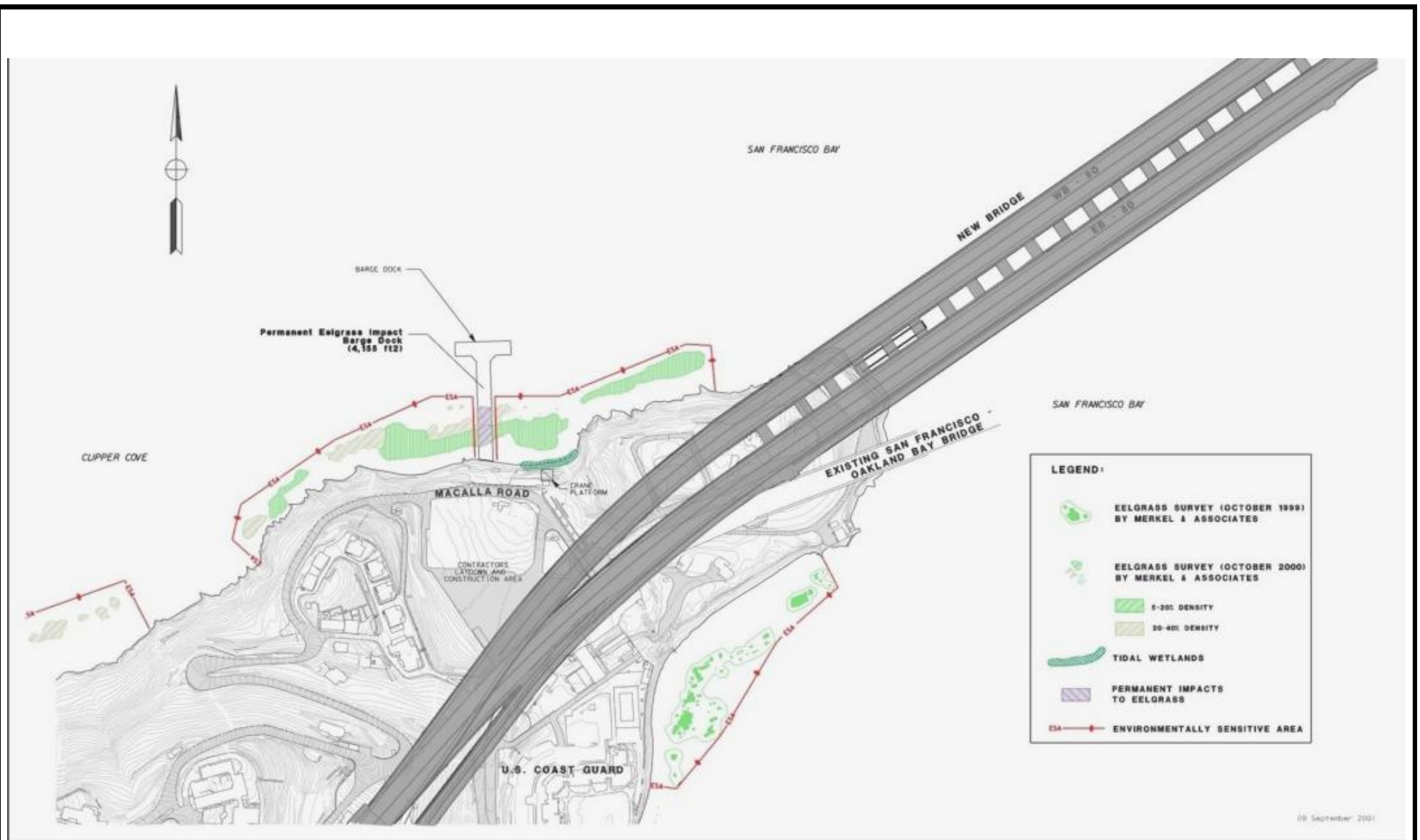


Exhibit J. Map showing eelgrass beds (Environmentally Sensitive Areas) at Yerba Buena Island.

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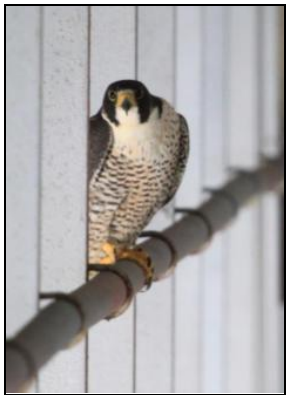


Exhibit K. Examples of biological resources in the area, including, American peregrine falcon, harbor seals, chinook salmon & steelhead, double crested cormorant. Biological resources not pictured above include the California least tern, western gull, pacific herring, green sturgeon, longfin smelt, marine mammals, and eelgrass.

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	J	F	M	A	M	J	J	A	S	O	N	D
Harbor Seal												
California Sea Lion												
Elephant Seal												
Gray Whale												
Longfin Smelt												
Northern Anchovy												
Pacific Herring												
Chinook Salmon ¹												
Pacific Sardine												
Green Sturgeon ²												
Nesting Birds												
Diving Birds												

¹Juvenile Chinook salmon densities around Pier E3 are low (highest value of 0.25 individuals/10,000 sq. meters in May).

²Green sturgeon have potential to occur around Pier E3 year-round, but in very low densities.

Exhibit L. Breakdown showing the optimal time of the year based on presence of species. Green squares indicate times when species are not present, not likely to be present, or are at their lowest densities recorded.

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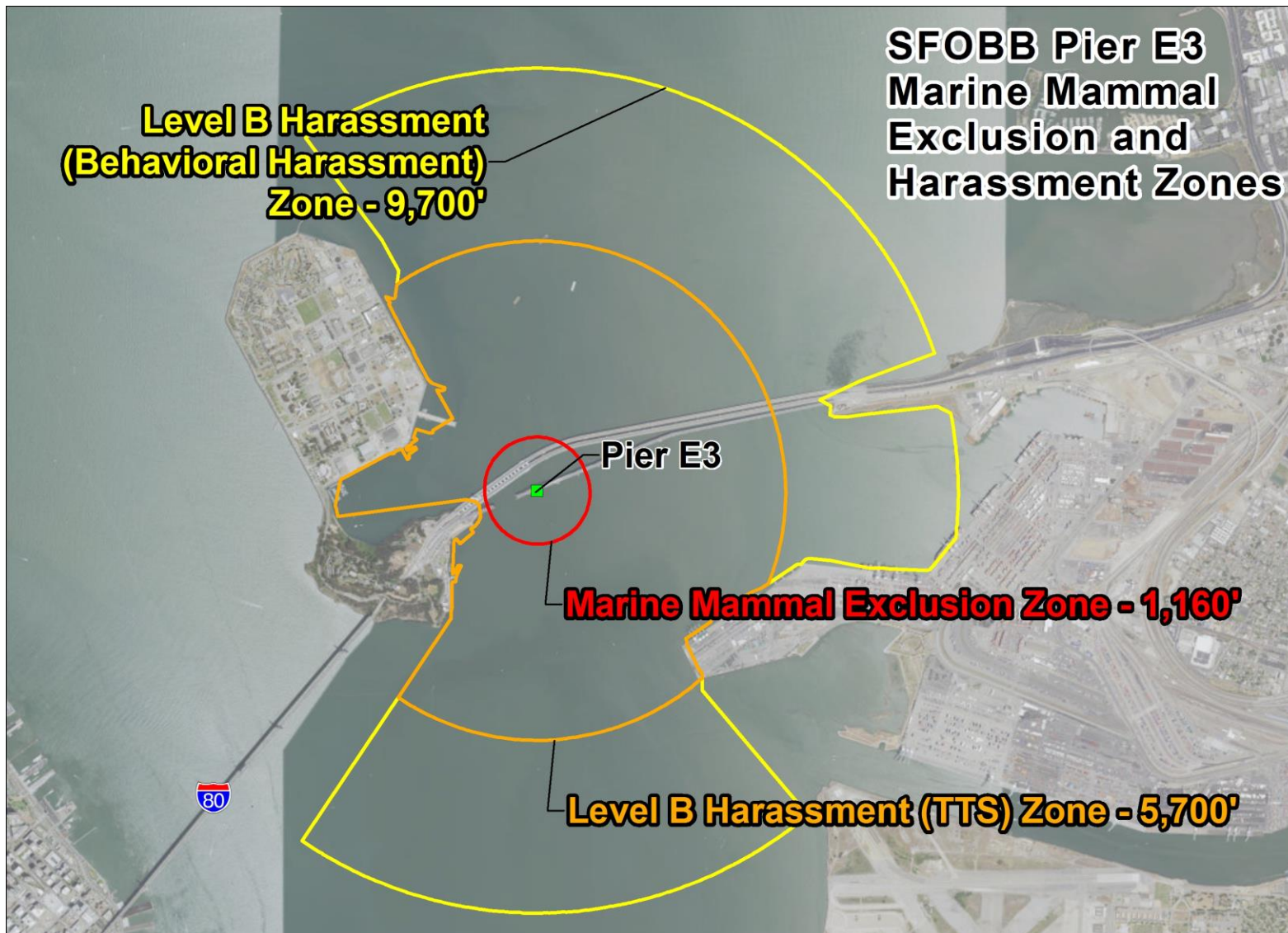


Exhibit M. Aerial view of the project area showing marine mammal impact thresholds and exclusion zones. Level B Harassment has potential to disturb a marine mammal, but does not include injury.

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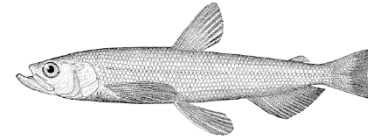
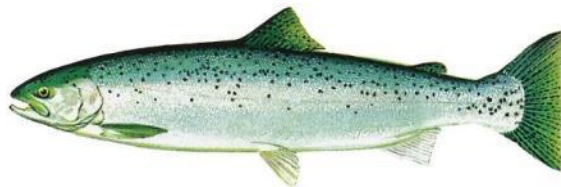


Exhibit N. Protected fish species (not to scale) including Chinook salmon, steelhead, Coho salmon, green sturgeon and longfin smelt.

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Exhibit O. Aerial view of the project area showing fisheries impact thresholds for peak pressure and sound exposure levels.

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Exhibit P. Aerial view of the project area showing fisheries impact thresholds for peak pressure and sound exposure levels relative to greater San Francisco Bay Area.

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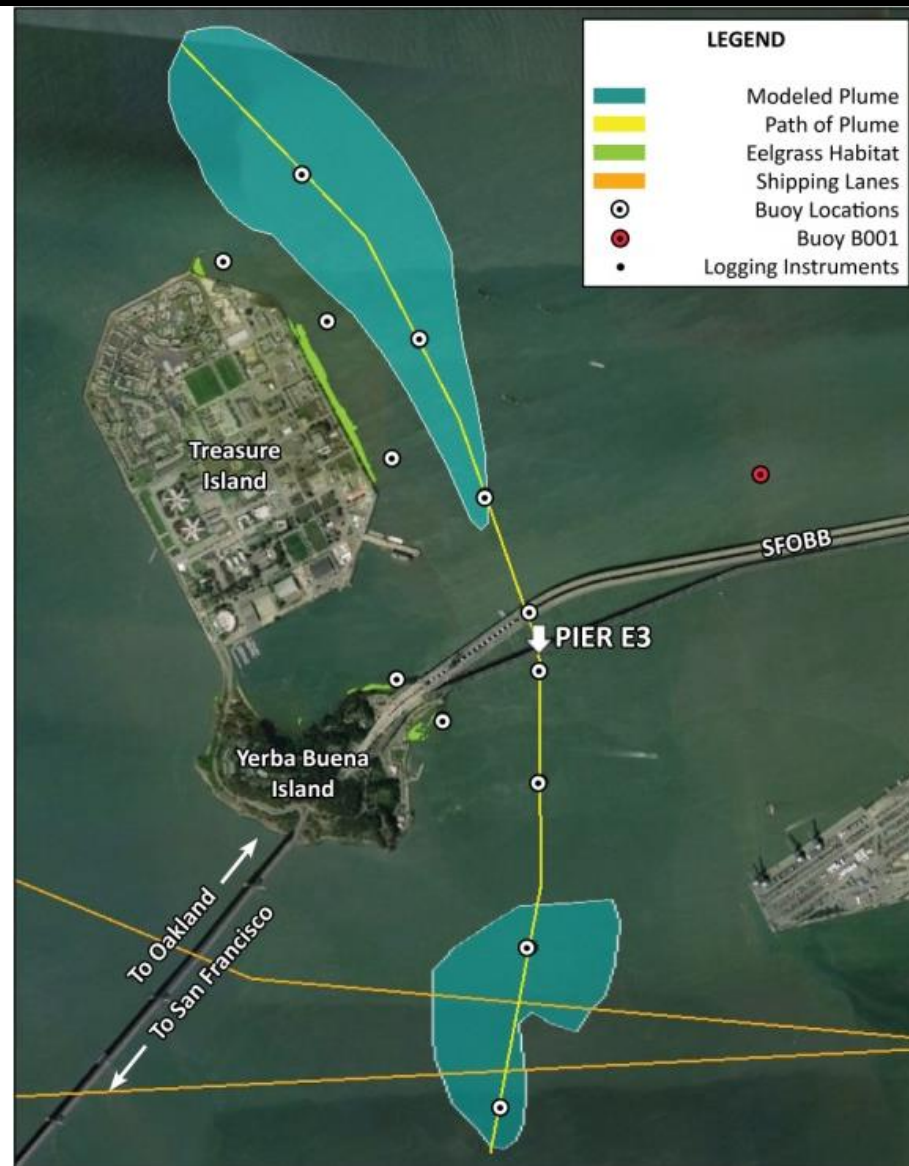


Exhibit Q. Model of anticipated turbidity plume immediately following the implosion, including locations of monitoring stations relative to eelgrass beds in green. Turbidity caused by the Demonstration Project is expected to dissipate in less than two hours.

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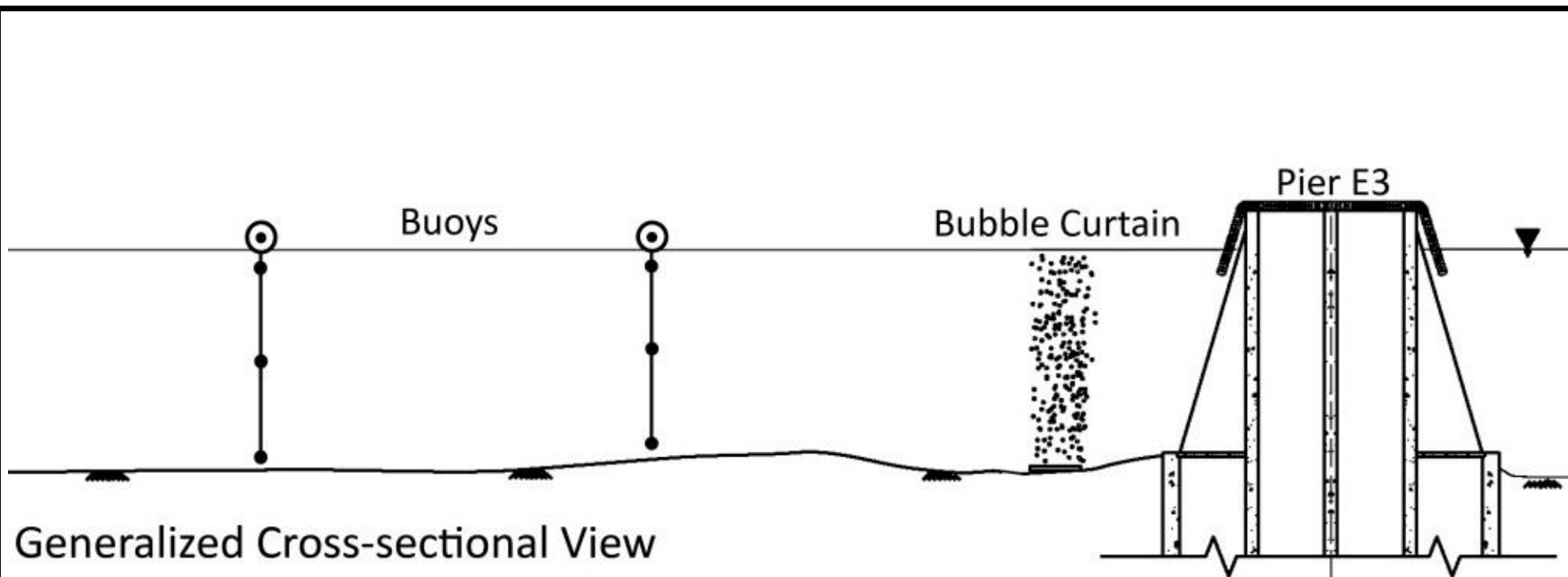


Exhibit R. Side view schematic of the water quality monitoring buoys relative to the blast attenuation system and Pier E3.

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